

REMARKS

The Abstract has been revised to correct the defect noted by the Examiner.

The specification has been amended to correct the defects noted by the Examiner, as well as other errors of a typographical nature. With specific regard to page 8, lines 31-33, the sentence structure has been modified to clarify the definition of $S_{dl,i}$, and should overcome the Examiner's objection. More specifically, $S_{dl,i}$ sums the path loss estimate (L_i), the average interference ($I_{ave,i}$) and the downlink offset (DL_offset), as shown in equation (2). $S_{dl,i}$ is thus a measure of the interference and is related to the carrier to interference ratio. The Examiner is respectfully requested to reconsider and remove the objection to the specification based on the foregoing clarifying amendment.

Claims 1-30 were pending in this patent application, and claims 31-37 have been newly added. Claims 1-37 are now pending in the patent application.

Claims 1-2, 4-6, 11, 21, 23, and 25-29 are rejected under 35 U.S.C. 102(b) as being anticipated by Cullen (International Publication Number WO 95/04419); claims 3, 7-8, and 24 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 95/04419 to Cullen in view of Andersson et al. (U.S. Patent 5,594,949); claims 9-10, 18-20, 22 and 30 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO 95/04419 to Cullen in view of Blakeney, II et al. (U.S. Patent 5,267,261); and claims 12-17 are rejected under 35 U.S.C. 103(a) as being unpatentable over WO/95/04419 to Cullen in view of Muszynski (U.S. Patent 6,009,328). These rejections are respectfully disagreed with, and are traversed below.

It is noted that a number of the claims have been amended to even further improve their clarity, and that this amendment has also served to even further distinguish and distance the subject matter of the claims from the teachings of the references that were cited and relied on by the Examiner.

The cited references are discussed in view of the amended claims.

Cullen (International Publication Number WO 95/04419) employs a centralized decision system for channel assignment, wherein individual base stations are used to measure radio signal quality (page 2, lines 30 to 33). Cullen describes a bilateral arrangement where a mobile station 1 is connected to a single base station 2b, see e.g. Fig. 1, although many base stations may listen to the signals arriving from the mobile station. Cullen fails to disclose that a mobile station measures properties of radio signals coming from different base stations, as opposed to the present invention. Instead, Cullen teaches that

“the base site controller 6 includes sufficient processing to identify which of the three base stations 2a-2c has the strongest signal from the mobile unit 1, only that fact need be passed to the decision making unit (typically located in the mobile switching centre 7) determining whether a handover is to take place” (page 5, lines 29 to 35).

Cullen thus fundamentally differs from the present invention as the mobile station in Cullen does not monitor radio signals of a plurality of base stations. Cullen also fails to disclose various other features of the present invention, such as defining by the network to the mobile station a plurality of parameters (or measurement report triggering conditions) and sending them to the mobile station. Determining measurement report triggering conditions, using the parameters received from the network, by the mobile station is not disclosed in Cullen. In brief, Cullen rather teaches away from than towards the claimed invention.

Claim 1, as filed is thus clearly not anticipated by Cullen. In any event, a merely clarifying amendment has been made to claim 1 to specifically state that “defining by the network to the mobile station a plurality of parameters for the mobile station, sending the parameters to the mobile station, determining by the mobile station a plurality of independent measurement report

triggering conditions using the network defined parameters, monitoring at the mobile station properties of a plurality of radio signals received from respective base stations, verifying by the mobile station whether a measurement report triggering condition has been met, generating a measurement report comprising information about the monitored radio signals at the mobile station when at least one of the triggering conditions has been met, and transmitting the generated measurement report to the network.” Support for this amendment can be found in the specification at least at page 6, lines 11-12, and page 7, lines 30-32. No new matter is added.

Claim 2 has been rewritten as an independent claim, and also clarifies that the mobile station does monitor radio signals of a plurality of base stations, and is thus therefore not anticipated by Cullen.

In that claim 1 is clearly not anticipated by Cullen, then dependent claims 4-6, 11, 21, 23, and 25 are also not anticipated by Cullen.

Independent claims 26, 28 and 29 have been clarified in the same manner as claim 1 and should also be found to be patentable. Claim 27 has been amended to an independent claim to clarify it in the same manner as claim 1 and should be found to be patentable.

Andersson et al. (“Andersson”) U.S. 5,594,949 discloses a system that locally estimates the interference on downlink channels available to a base station to determine candidate channels for new calls (Column 2, lines 27-37). The Mobile Assisted Hand Over (MAHO) function may be invoked at already connected mobile stations other than the one which is requesting a new connection (=handover) (column 2, lines 33-34, column 4, lines 21-24 and column 6, lines 26-33). Andersson also discloses another embodiment referred to in the office action, wherein as opposed to using already connected mobile stations, idle mobile stations are instructed to measure either or both word error rate or received signal strength on channels designated by the base station (column 6, lines 26-35).

The present invention concerns handover decisions on establishing or cancelling a link between a mobile station and a base station where the mobile station concerned is sent parameters or conditions for triggering measurement reporting to the base station. Andersson thus falls short from leading an ordinarily skilled person from Cullen to any one of the claims. Claim 3 is thus non-obvious and is clearly patentable over Cullen in view of Andersson.

As to the Examiner's assertion of CDMA being disclosed in Andersson, no such teaching was found therein. The only disclosure of the type of the system found was of TDMA systems at column 4, lines 46 to 48. Claim 7 is thus clearly patentable over Cullen in view of Andersson.

Claim 8 has been amended to define the use of active measurement report triggering conditions and also contains all of the restrictions of claim 1, and is thus patentable over Cullen in view of Andersson. Claim 24, in view of the amended claim 1 is patentable over Cullen in view of Andersson.

Blakeney II et al. ("Blakeney") U.S. 5,267,261 discloses offsets in the pseudonoise code trains between different base stations so that the mobile station can distinguish pilot signals of one base station from another. These offsets have nothing to do with claim 9 offset values. First, Blakeney does not disclose sending offset values to the mobile station, because the correlator of a CDMA receiver automatically detects them. Further, the offsets in Blakeney simply serve to prevent signals of different base stations from merging that would prevent detecting the strength of signals arriving from a particular base station. Additionally, the offset values of claim 9 are used in the step of verifying by the mobile station whether a measurement report triggering condition has been met. Even if any offset values were sent in Blakeney, they would not have any use in this step as the claimed offsets allow the network to control the load balancing so that overloading some closest base stations can be avoided by using some slightly more distant base stations, see Equation (2) and page 8, lines 17 to 25 ("The purpose of this base station specific parameter is to specify for different cell sizes."). It is also unlikely that Blakeney would disclose the network dynamically setting the offset value, as that would serve no purpose in Blakeney.

In view of this, claims 9 and 10 are non-obvious and clearly patentable over Cullen in view of Blakeney. The same arguments apply to claims 18-20, 22 and 30.

With regard to Muszynski U.S. 6,009,328, the first citation given to this reference appears to point to the background art section and as such not to derive from the same disclosure as the second citation. Moreover, the context of the measuring the E_b/N_o value is that of closed loop power control rather than handover decision making. It is thus not clear to us that Muszynski discloses that at the mobile station, the state of each triggering condition (uplink and downlink) is determined, the states combined using the logical function, and the measurement report is sent in dependence on the condition of the logical function. As such, claim 12 is deemed patentable over Cullen in view of Muszynski. Claims 13-17 follow from claim 12 and are also deemed patentable over Cullen in view of Muszynski.

The claims as filed, and as now even further clarified by amendment, are thus clearly distinguished from the Examiner's proposed combination of the admitted prior art and Cullen, and the Examiner is respectfully requested to reconsider and remove this rejection, resulting in the allowance of claims 1-30.

As a part of this response claims 31-37 are newly added, and are also deemed to be patentable over the proposed combination of the admitted prior art and Cullen.

Based on the foregoing arguments, it should be clear that none of the prior art cited and relied on by the Examiner, either singularly or in combination, either anticipates or renders obvious the claimed subject matter as now even further clarified by amendment. The Examiner is respectfully requested to reconsider and remove the rejections.